

Response
Serial No. 10/051,158
Attorney Docket No. 020062

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

LISTING OF THE CLAIMS:

Claims 1 - 2 (Canceled).

Claim 3 (Currently Amended): A solid-state image pickup apparatus comprising:
a solid-state image pickup device chip having a bump formed thereon, and
a hermetic seal portion provided over the solid-state image pickup device chip having a
flat-plate portion formed of a transparent member and a frame portion disposed on a side portion of a
lower surface of the flat-plate portion;

edge sides of said solid-state image pickup device chip and those of said hermetic seal
portion being substantially coincident with each other;

 said frame portion at least including a metal wiring, said bump formed on said solid-state
image pickup device chip and electrically connected to the metal wiring, and a sealed region for
sealing the periphery of the bump by a sealing material;

 wherein said frame portion further includes a frame base portion and said metal wiring is
formed on one surface of said frame base portion while the other surface of the frame base portion
is adhered to said flat-plate portion.

Claims 4 - 5 (Canceled).

Response
Serial No. 10/051,158
Attorney Docket No. 020062

Claim 6 (Original): The solid-state image pickup apparatus according to claim 3, wherein an anisotropic conductive material is used as said sealing material.

Claims 7 – 12 (Canceled).

Claim 13 (Currently Amended): A solid-state image pickup apparatus comprising:
a solid-state image pickup device chip; and
a hermetic seal portion comprising a flat-plate portion formed of a transparent member provided over the solid-state image pickup device chip and a frame portion at least including a metal wiring disposed on a side portion of a lower surface of the flat-plate portion, a bump formed on said solid-state image pickup device chip and electrically connected to said metal wiring, and a sealed region for sealing the periphery of the bump by a sealing material;
edge sides of said solid-state image pickup device chip and those of said hermetic seal portion being substantially coincident with each other;
wherein a wiring region or an electrode pad region is formed from an electrode pad provided on said solid-state image pickup device chip via said bump and said metal wiring to a side surface or through the side surface to a back surface of said solid-state image pickup device chip so that an external terminal can be electrically connected to the wiring region or the electrode pad region.

Response
Serial No. 10/051,158
Attorney Docket No. 020062

Claim 14 (Previously Presented): A fabricating method of solid-state image pickup apparatus having a hermetic seal portion provided over a solid-state image pickup device chip comprising a flat-plate portion formed of a transparent member and a frame portion disposed at a side portion of a lower surface of the flat-plate portion, said fabricating method of solid-state image pickup apparatus including the steps of:

over an entire wafer having a large number of solid-state image pickup device chips formed thereon, integrally and at once in a manner corresponding to each individual solid-state image pickup device chip, forming a hermetic seal portion comprising a flat-plate portion made of a transparent member, and a frame portion at least including a metal wiring disposed at a side portion of a lower surface of the flat plate portion, a bump formed on said solid-state image pickup device chip and electrically connected to the metal wiring, and a seal region for sealing the periphery of the bump by a sealing material so that the frame portion is disposed on the lower surface of the flat-plate portion where a transparent member extended over the entire wafer is used as the flat-plate portion; and

separating the wafer having the hermetic seal portions formed integrally and at once thereon into solid-state image pickup device chips each having an individual hermetic seal portion.

Claim 15 (Previously Presented): The solid-state image pickup apparatus according to claim 13, wherein an anisotropic conductive material is used as said sealing material.